Materials Sciences Division
Safety Committee Meeting

January 19, 2010

Materials Sciences Division

Opening Remarks

- Miquel Salmeron, Director of Materials Sciences Division
- Mark Alper, Deputy Division Director, Materials Sciences Division

Agenda

Materials Sciences Division

- MSD Safety Committee
  - Membership
- Recent incidents/injuries
  - More injuries from broken glassware
  - Ergonomic injury
- Other Topics
  - Transporting Chemicals
  - LOTO rules change
  - Continued availability of Viton Gloves
  - Cryogen Policy Change
  - Area lead approach (reminder)
  - Viton gloves
- Building Issues
  - B66 elevator work

Administrative Issues

MSD Safety Committee

Membership

Roles

MSD Safety Committee

Membership and Liaisons

Materials Sciences Division

Chair and Deputy Chair:
Rick Kelly, Joel Ager

Building Managers:
Gilbert Torres (62, 66, 67), John Turner (72),

MSD EHS Administrative Support:
Susan Waters

Electrical Safety Repairs:
Jim Severns (MSD)

MSD EH&S Technician:
Paul Johnson
Carleton Falzone

SAC Representative
Erik Anderson

Liaisons:

EH&S Liaison to MSD:
Larry Mclouth

Waste Generator Assistant Liaison:
Howard Hansen (EHS)

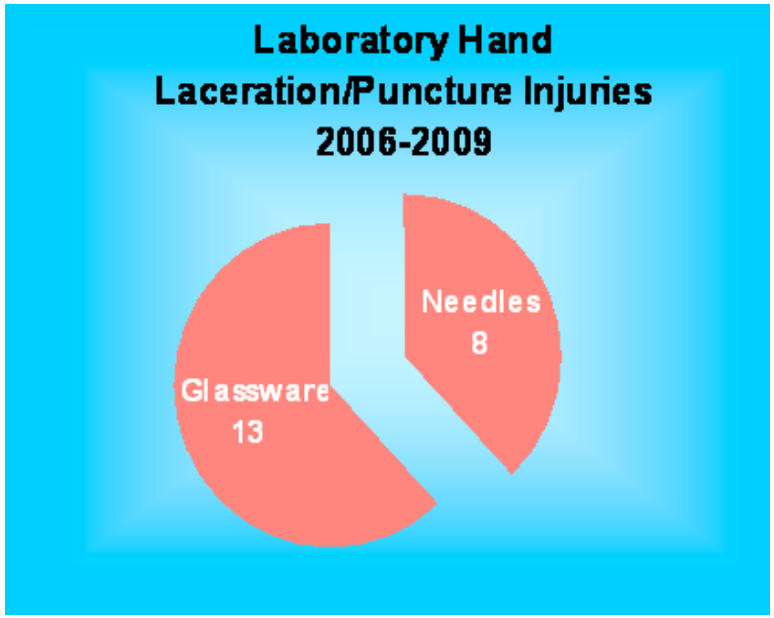
Representative	Group
Joel Ager	Ager
Ke Min	Blackwell
Edith Bourret-Courchesne	Bourret-Courchesne
Ron Tackaberry	CXRO
Marca Doeff	DeJonghe/Visco
Oscar Dubon	Dubon
Steve Wu	Dynes
Christian Papp	Fadley
Jeff Beeman	Haller/EMAT
Kunihari Takei	Javey
Blandine Jerome	Jerome
Hyunyong Choi	Kaindl
Daniel Garcia	Lanzara
Zuzanna Lilienthal	Liiental-Weber
Michael Connolly	Molecular Foundry/Bertozzi
Tracy Mattox	Molecular Foundry/Alivisatos
Bruce Harteneck	Molecular Foundry/Bokor
Yi Liu	Molecular Foundry/Fretchet/Svec
David Prendergast	Molecular Foundry/Louie
David Bunzow	Molecular Foundry User Program
Doreen Ah Tye	NCEM
Matthew Langner	Orenstein
Joseph Lemberg	Ritchie
Paul Ashby	Salmeron/Molecular Foundry
Yi Zhu	Schoenlein
Robert Baker,	Somorjai
Grace Lau	Tomsia

Each LBNL-based research group in MSD, including each program in the Molecular Foundry, will designate a primary and backup representative to serve on the Safety Committee

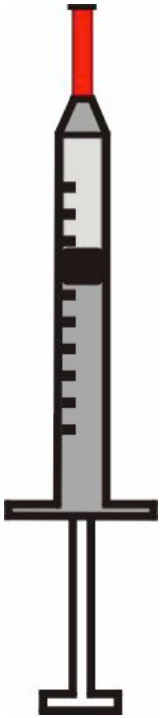
Near Misses and Accidents

LBNL Injuries from Glassware and Needles 2006-2009

Materials Sciences Division



- MSD accounts for 7/21 of these injuries
- Area for Improvement



Injuries from Broken Glassware

Materials Sciences Division

Avoid Cuts from Broken Lab Glassware!

Injuries occur every year in MSD from broken lab glassware!

√ **Don't pull tubing off of glassware, cut it off carefully with an X-acto knife**

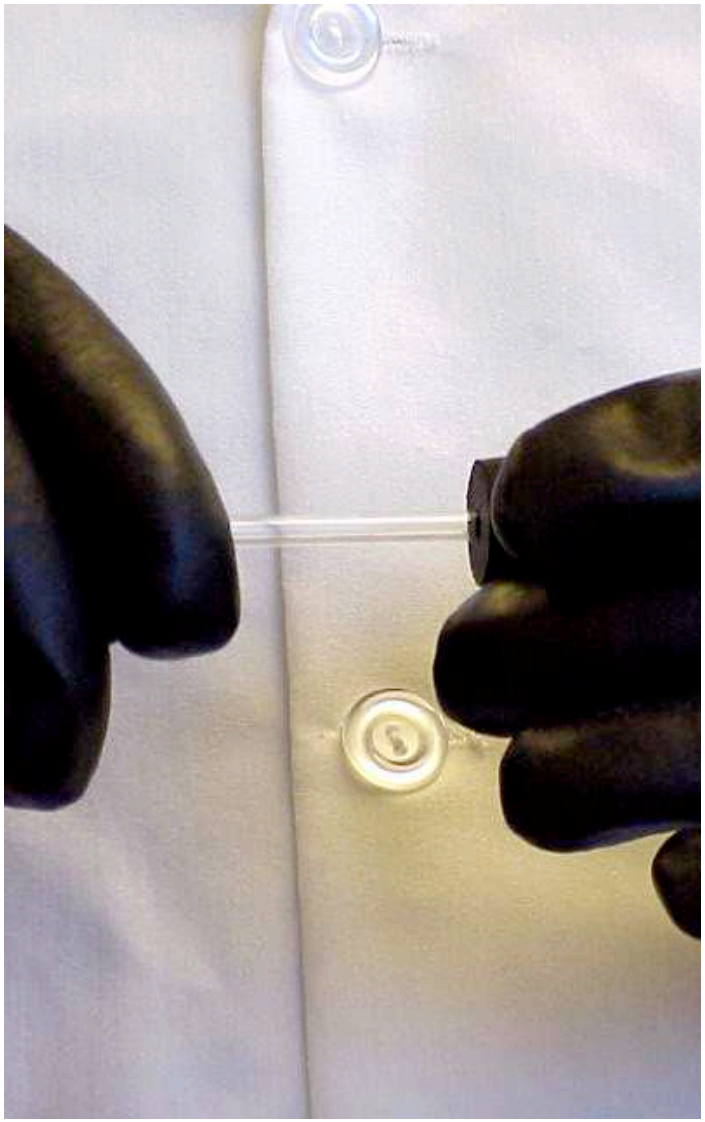
√ **Wear heavier gloves when there is risk of breaking glassware**

√ **Don't forget eye protection and a lab coat if chemicals are involved**

MSD 1/10

- Several injuries every year on broken glassware
- Most occur when trying to pull tubing off of glassware
- Cut tubing off, do not pull it off

Injuries from Broken Glassware



- Lubricate tubes before penetrating rubber stoppers
- Even lubrication with DI water is better than attempting it dry

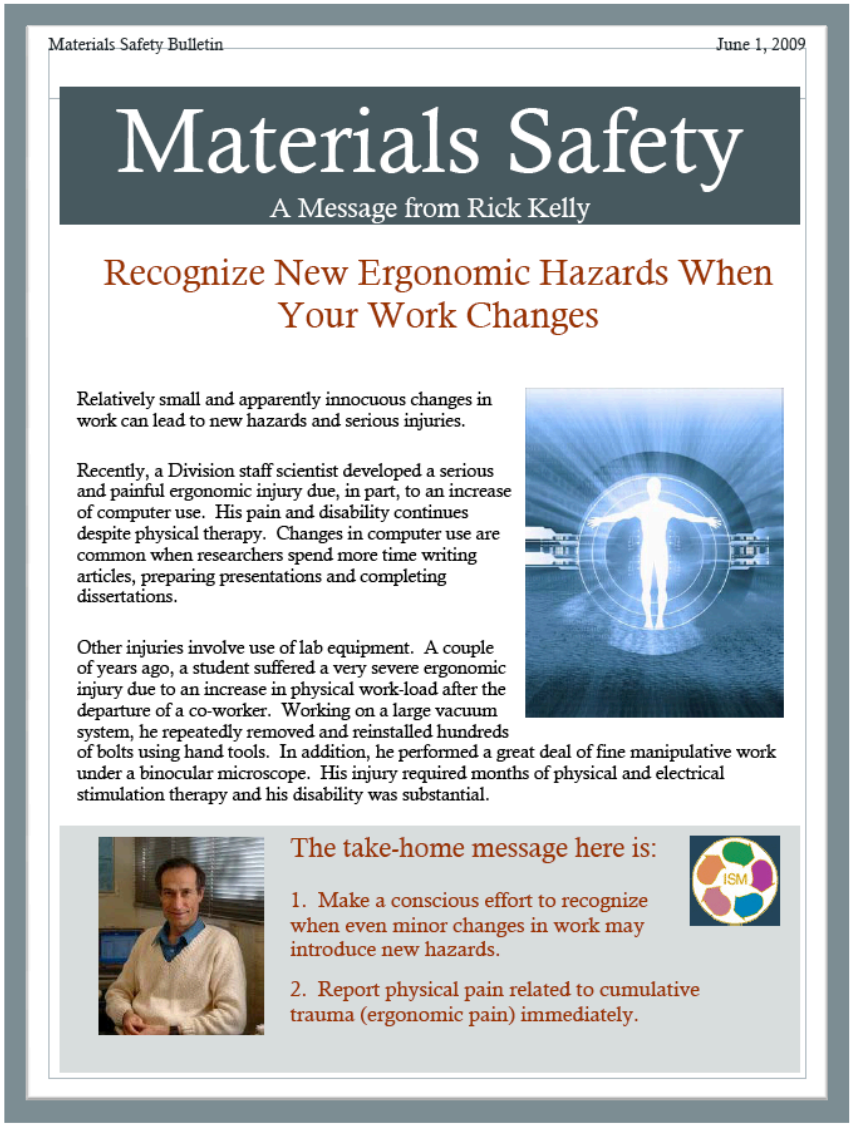
Injuries from Broken Glassware

Materials Sciences Division

- If glassware is to be used under pressure or vacuum, inspect it thoroughly prior to use
- Even large scratches can lead to container failure under stress

Ergonomic Injuries Continue

- Often the more serious injuries are associated with:
  - Delays in reporting the problem
  - Changes in work



Materials Safety Bulletin June 1, 2009

Materials Safety

A Message from Rick Kelly

Recognize New Ergonomic Hazards When Your Work Changes

Relatively small and apparently innocuous changes in work can lead to new hazards and serious injuries.

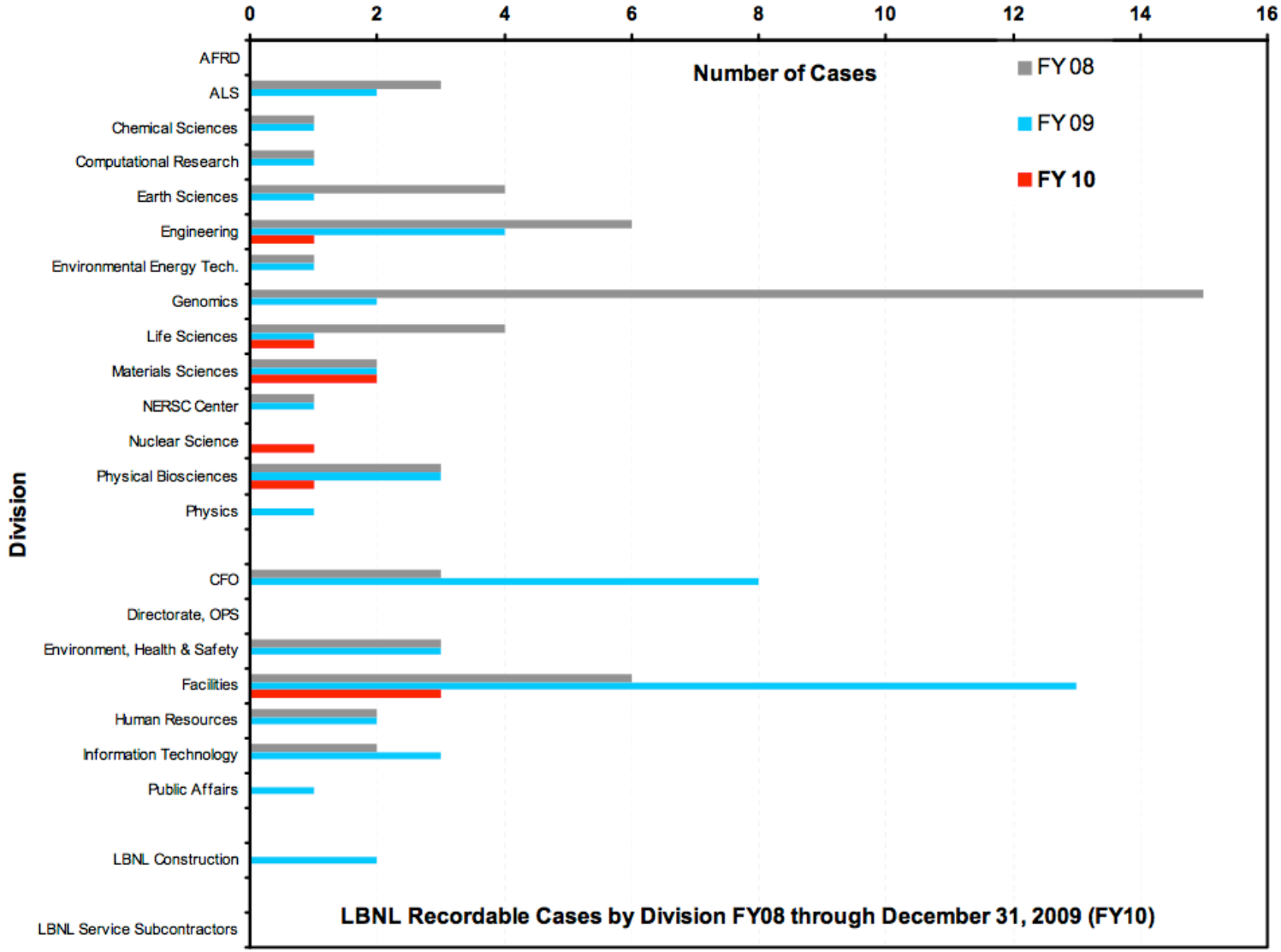
Recently, a Division staff scientist developed a serious and painful ergonomic injury due, in part, to an increase of computer use. His pain and disability continues despite physical therapy. Changes in computer use are common when researchers spend more time writing articles, preparing presentations and completing dissertations.

Other injuries involve use of lab equipment. A couple of years ago, a student suffered a very severe ergonomic injury due to an increase in physical work-load after the departure of a co-worker. Working on a large vacuum system, he repeatedly removed and reinstalled hundreds of bolts using hand tools. In addition, he performed a great deal of fine manipulative work under a binocular microscope. His injury required months of physical and electrical stimulation therapy and his disability was substantial.

The take-home message here is:

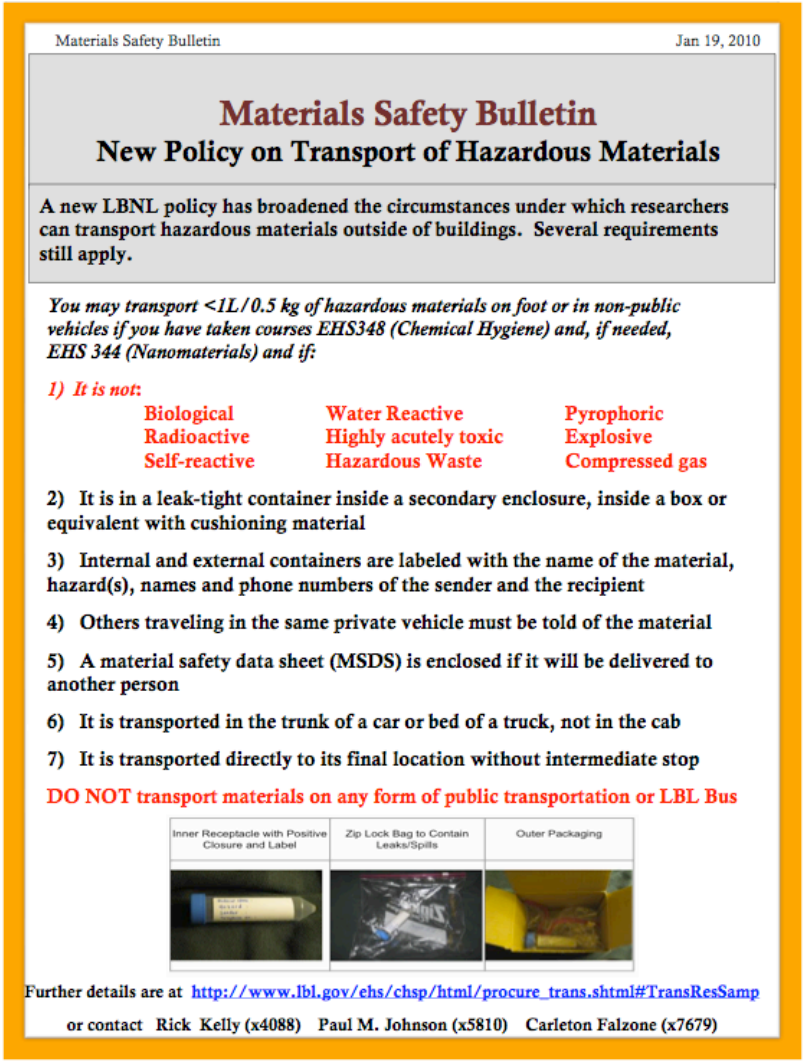
1. Make a conscious effort to recognize when even minor changes in work may introduce new hazards.
2. Report physical pain related to cumulative trauma (ergonomic pain) immediately.

Overall, MSD has had few serious accidents



Other Issues

New Rules on Transporting Hazardous Materials



Materials Safety Bulletin Jan 19, 2010

Materials Safety Bulletin
New Policy on Transport of Hazardous Materials

A new LBNL policy has broadened the circumstances under which researchers can transport hazardous materials outside of buildings. Several requirements still apply.

You may transport <1L / 0.5 kg of hazardous materials on foot or in non-public vehicles if you have taken courses EHS348 (Chemical Hygiene) and, if needed, EHS 344 (Nanomaterials) and if:

1) It is not:

Biological	Water Reactive	Pyrophoric
Radioactive	Highly acutely toxic	Explosive
Self-reactive	Hazardous Waste	Compressed gas

2) It is in a leak-tight container inside a secondary enclosure, inside a box or equivalent with cushioning material

3) Internal and external containers are labeled with the name of the material, hazard(s), names and phone numbers of the sender and the recipient

4) Others traveling in the same private vehicle must be told of the material

5) A material safety data sheet (MSDS) is enclosed if it will be delivered to another person

6) It is transported in the trunk of a car or bed of a truck, not in the cab

7) It is transported directly to its final location without intermediate stop

DO NOT transport materials on any form of public transportation or LBL Bus

Further details are at http://www.lbl.gov/ehs/chsp/html/procure_trans.shtml#TransResSamp

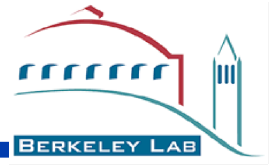
or contact Rick Kelly (x4088) Paul M. Johnson (x5810) Carleton Falzone (x7679)

- Increased ability to hand carry and drive chemicals around
- New rules to do so

Reminder-Rules for LOTO/Energized Electrical Work

- Lock out/tag out (LOTO) or energized electrical work can only be performed by people who have the required training and are authorized via an activity hazard document
- AHDs in place:
  - —Ion Implanter in B2
  - —Accelerator in B62
- AHDs in works:
  - —Salmeron Group
  - —CXRO Nanofab
  - —Division Electronics Tech
  - —Schoenlein group

New Policy On Cryogens



- New policy to be published shortly
- Each lab that uses large cryogen dewars will have to be assessed for the potential for oxygen deficiency
- Not likely to impact many labs, but there may be a few
- Possible requirement for oxygen deficiency monitor

Viton Gloves

- **Division office is stocking Viton rubber gloves, only gloves that will work for dichloromethane / methylene chloride**
- **Let Paul or Carleton know if you need some of these gloves--sizes from very small to huge**

Implementation of Area Lead Approach

- Only formal supervisors (PI's and others) are allowed to approve JHAs and thus authorize work in MSD (act as "work lead" per LBNL policy)
- Supervisors are *encouraged* to appoint "area safety leads" to help:
  - — *Required* if you manage >10 people
  - — Provide on-the-job training
  - — Oversee safety in the labs
  - — Help new people prepare or revise their JHAs
  - — Perform other safety duties
  - — Complete training intended for "work leads"*

*Currently this training is in suspense

The supervisor must ultimately approve the JHAs and authorize work!

B66 Elevator Out Until March

- If you need to transport dewars or other heavy items up to the 3rod or 4th floor, contact Gil Torres as far in advance as possible and the riggers will move the item for you.
- Do not attempt to move dewars via the stairs or the 3rd floor entrance

Other Topics and Issues